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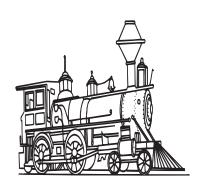
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the defeat of the south Railroads and Wagons



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Army generals
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railroad as a novel
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hile railroads and wagons needed to be, they were not regarded by the Southern higher direction of the War Between the States (the Rebellion) as an integrated mechanism upon which victory in modern war depended. The nature of the Southern people was such that they saw battle as the object, whereas given their advantage of internal lines, they should have adapted a Vaubanian series of defensive strong points with mobile forces in between based on railheads.

Railroads in the South in 1861 were of many gauges, of limited rolling stock, and running on lightweight bar-iron track on unballasted ties. Though ticketed-through passengers could travel from one line to another, cars could not, so all freight had to be transshipped at terminal junctions. Private property and profit, together with states' rights, militated against efficiency once war began. Yet the vision of a through service from New York City via Norfolk, Virginia, to New Orleans was proposed in April 1861 but, for various reasons, never started.

Once war broke out, Confederate States Army (CSA) generals grasped the railroad as a novel panacea for the difficulties of war. Men, materials, guns, and munitions could be moved rapidly and unloaded at the station nearest to the battlefield. There were two major difficulties in the rainy South. The first was storage had to be built ahead of time to protect and preserve supplies. And second, someone who understood single-track railway operations had to manage the system. In 1861, both sides envisioned a short war with one battle—Bull Run or First Manassas—settling everything. But it did not, and the next nearly 4 years showed the side that understood, managed, and controlled not only the railroads but also the national political economy, including field transport, had a distinct advantage.

In January 1862, the North coerced the railroads with a threatening Act of Congress that gave the Government power to take over any line that did not give Union business priority. The South took years to reach such a law, and then President Davis would not enforce it, except for a few weeks to get supplies to beleaguered Richmond and Petersburg. As a result, Confederate shipments languished along the way, offloaded beside the tracks in the hot sun and rain usually at transshipment points. So meat sent from Nashville, which should have gone through on an interchange system in 5 days, took up to 9 and was inedible and condemned when it arrived in Richmond.

The standard freight train consisted of a 25-ton 4-4-0 locomotive of limited tractive effort and ten cars holding 8 tons each. For every day it was late, the railroad was deprived of the use of those ten cars. If a train was 90 days en route over some 700 miles, in theory, 6,800 tons of capacity were lost—or at 184 tons a day, 37-days' supplies for General Robert E. Lee.

If the proposed 1,000-mile New Orleans to Richmond through freights had been run, the companies involved would have had to work out scheduling and passing on 18x56-mile segments each containing four 14-mile blocks, all on 5-foot gauge. The whole, not counting spares, would have required 108 locomotives and 1,080 boxcars. This was beyond the wartime capacities of the South as virtually all locomotives and most rolling stock were imported from the North.

By mid-1863, the railways were hurting for lack of a national grand strategy that recognized the technical nature of modern war.

When war began, the Southern government decreed that all metal works should devote themselves solely to munitions production. This deprived most of the 113 Southern rail lines of spare parts, especially chilled tires for locomotives, and severely limited repairs and rebuilding of rolling stock and right of way. And then later in the war, scarce mechanics were conscripted if they had not, together with irreplaceable rails, been coopted by the Navy to build ironclad gunboats.

By mid-1863, the railways were hurting for lack of a national grand strategy that recognized the technical nature of modern war. On some lines, half the locomotives were awaiting repairs, and the freight cars were in a decrepit state, thanks to overuse, abuse by troops, and lack of replacements. A further difficulty was that neither Richmond nor the generals understood the need for ruthless, conserving methods. Southern generals ordered rails torn up, bridges burned, and lacked the foresight to commandeer locomotives and rolling stock to other lines rather than destroying them. Nor did Richmond lean on the Confederate Congress and state legislatures to rush through the important Piedmont Railroad between Greensboro, North Carolina, and Danville, Virginia. And when in mid-1864 it was completed, it was of 4 feet 8-

Danville, Virginia. And when in mid-1864 it was completed, it was of 4 feet 8 1/2 inches North Carolina gauge, whereas the Richmond and Danville was 5 feet. Everything had to be transshipped across the street in Danville.

It could take up to 4 days to unload a 100-ton freight at Depot A and move it across town to Depot B, whether or not it was loaded immediately into another company's cars.

The disappearance of grain shipments from Georgia to Richmond starting in 1863 was due not only to civilian theft or unauthorized commandeering by local commanders but also to leakage from cars in ill-repair to the tune of 20 bushels of grain an hour through a hole only 6 inches square and also to the depredations of rats. This is not to mention losses on slow schedules and at transshipment points.

It is quite true that the railroads were in dire condition by 1864. It is also true that they got bad press in the newspapers, especially from the February 1865 report of the Commissary-General, who blamed his shortages on the inefficient railways and upon the flabbiness of the Richmond government, which failed to implement professional recommendations. But a reading of the railroad companies' annual reports shows that some of them, such as the Richmond and Danville, managed very well and even turned adversity to their own advantage—the R&D had by April 1865 relaid 135 of 146 miles with heavy rails.

Study of the US Military Railroad, run by professional railroaders, who supported the Union, shows what could be done by managers, men, money, and materials focused on getting the job done. This was demonstrated by the support from Sherman's Atlanta Campaign in 1864.

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Railroads and Wagons: the Defeat of the South

But railroads were only the arteries of a transportation complex, which also included wagons. My argument here is that the South, because of its very petite urban nature and because of its stratified rural agricultural population, was short of wagons. It is based on careful calculations of the possible number of wagons in the United States in 1860, a task made difficult by the fact that these vehicles were not included in the census of 1860 or in related occupational terms that are ill-defined and inconsistent.

Basing my analysis on four and one-half persons in a white family owning a 2,000-pound capacity wagon, three free-colored families having one, and urbanites being supplied by 26 wagonloads daily per 1,000 inhabitants, I then had to take that possible aggregate, refine it by recognizing that 20 percent of Southerners were poor whites and that another 20 percent were frontiersmen living in clearings of 100 acres or less in the forests and that these people were misclassified by a census that was, like Doomsday Book in Medieval England, interested in taxable wealth. These Scotch-Irish were cattle and swine raisers and drovers. They, too, had no wagons. That left farmers who owned more than 100 acres up to planters who, depending on the soil, owned several hundred. The grand estimated total of wagons in the South was 232,800 versus 4,360,000 in the whole United States in 1860. Of those in the South, the planters are estimated to have had 197,700, which they refused to allow to be requisitioned. That means that the CSA had available to it 25,900, including the 15,750 needed to supply the cities, or at best 10,150.

The Army of Northern Virginia at Gettysburg needed 1,800 and had 1,500 awaiting repair. General James Longstreet in early 1863 could not move requisitioned supplies from Suffolk County for shortage of transport, and Lee did not have the wagons to recover grain only 50 miles northeast of Richmond. In mid-1864, General Joseph Johnston was certified by the Inspector General of Field Transport to be 1,000 wagons short for a campaign back into Tennessee. And when Lee retreated to Appomattox in April 1865, he lost 200-400 wagons at Sailor's Creek and on the 9th surrendered only 104.

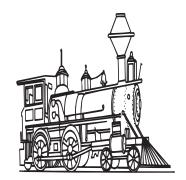
Apart from the estimate that the South started out deficient, what else happened? Management again. Southern gentlemen loved to ride, hunt, and gamble, but they left looking after wagons to slaves. And the ordinary soldier did not do manual work. So unless there were slaves or free-colored present, wagon wheels did not get greased every 5 days, and the bodies got no repairs. Besides, generals, such as Johnston, left a trail of broken and abandoned vehicles.

General Sherman beat Johnston from Dalton to Atlanta, Georgia, because, while Johnston bound himself to the railway, Sherman was 5 days ahead of his USMRR railhead and had 2,500 well-maintained wagons with which to outflank his opponent. He understood that modern war combined the old and the new.

In addition to a scarcity of wagons, the South also was short of draft animals. By 1864, the eastern South had lost nearly 25 percent of its population and more than half of its horses. Proof that it lacked wagons is the statement that in February 1865 the CSA needed only 11,500 horses and mules and might only be able to find 5,000 for cavalry, artillery and train.

One must conclude that the South was destined for defeat by its own inability to manage a modern war. This should become plainer as more studies look at the Confederate picture and not just at the battlefields.

Robin Higham is professor emeritus of history at Kansas State University. A frequent contributor to the Air Force Joural of Logistics, he has educated two generations of military historians.



But railroads were only the arteries of a transportation complex, which also included wagons.



A flock of sheep led by a lion will prevail over a herd of lions led by a sheep.

-Ancient Fable



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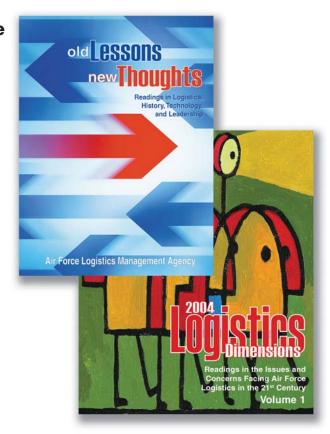
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